Data Science Report: Trader Behaviour and Market Sentiment

Executive Summary & Sentiment Distribution

This analysis examines the relationship between market sentiment, as measured by the Bitcoin Fear & Greed Index, and trading activity on the Hyperliquid platform. Over 200,000 trades and 2,600 days of sentiment data are integrated, revealing how trader behaviour shifts under fear vs. greed, which assets and strategies perform best, and how optimal timing and risk correlate with profitability.

Sentiment Distribution (2018–2025):
- Fear: 781 days
- Greed: 633 days
- Extreme Fear: 508 days
- Neutral: 396 days
- Extreme Greed: 326 days

The sentiment split shows that the market spends more time in states of fear than in greed, with a significant number of days categorised as “Extreme” in both directions. This backdrop impacts overall trading activity and risk-taking behaviour.

Trading Volume & Profitability Analysis

Total trading volume analysed: $1.19 billion

Aggregate trader profit/loss (realised):$10,296,958

Trading activity is robust, with high dollar turnover and distinct volume spikes during periods of greed. On average, larger trades and higher volumes occur when market sentiment is positive (greed), while extreme fear periods often see reduced volume and smaller trades. However, the most profitable periods are not always when volume is highest, as increased greed can also drive riskier trades and more substantial losses.

Trader Performance & Risk Behaviour

Unique traders: 32
Unique coins traded: 246

Performance varies widely among traders. Top performers demonstrate positive net returns, especially during neutral or greed periods. Trader classification reveals:
- Some consistently profit regardless of sentiment.
- Most traders post net losses or break-even results during extreme sentiment swings.

Risk behaviour is sentiment-dependent:
High-risk trades (large size): More common in greed and extreme greed phases.
Conservative trading (small size):Dominates during periods of fear and extreme fear.
The risk-taking proportion increases with rising sentiment index values.

Asset-Level Insights & Recommendations

Top traded coins include HYPE, @107, BTC, ETH, and SOL, which account for most market activity.

Recommendations:
- Momentum assets like BTC and ETH perform best during greed periods but can suffer reversals in extreme sentiment.
- Emerging or meme coins show episodic surges that result from sentiment spikes; caution is advised when trend volume rises rapidly.
- Diversifying positions between major and minor coins can reduce risk, especially when sentiment is neutral.

Trader strategy suggestion:
Focus on liquidity and spread during periods of extreme sentiment. Concentrate activity in stable coins when volatility is high—profitability is not solely a function of risk, but also timing and asset selection.

Time-Based Patterns & Conclusions

Trading activity follows clear time-based cycles:
- Higher volumes during peak market hours and coinciding with major sentiment shifts.
- Win rates are improved when trades are executed during periods aligning positive sentiment with volume spikes.
- Hourly and daily cycles reflect market participant coordination and response to news.

Conclusion:
Market sentiment drives both volume and profit fluctuations, but the best results derive from adapting strategy to current risk conditions. Sustainable profitability is achieved by balancing aggression (in greed periods) with caution (in fear periods), tracking hourly sentiment and asset trends, and leveraging analysis to inform both short-term trades and long-term positions.